

The New Gravitational Formula Is The Greatest Gravitational Discovery That Was Ever Made

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Abstract: In 1976 Jiang Found The New Gravitational Formula, It Is The Greatest Gravitational Discovery That Was Ever Made(Beyond the Newtonian Gravitational Theory and Overthrow the Einstein Gravitational Theory). All the world dark matter, dark energy, and gravitational waves detection experiments and all colliders should be closed. [Chun-Xuan Jiang. **The New Gravitational Formula Is The Greatest Gravitational Discovery That Was Ever Made.** *Academ Arena* 2017;9(10):70-97]. ISSN 1553-992X (print); ISSN 2158-771X (online). <http://www.sciencepub.net/academia>. 10. doi:[10.7537/marsaaj091017.10](https://doi.org/10.7537/marsaaj091017.10).

Keywords: New Gravitational Formula; The Greatest Gravitational Discovery;

In 1975 we established the new space-time theory, which is foundations of particle physics and cosmology. We deduce new gravitational formula. We prove that in the universe there are no dark matter and no dark energy. No quarks, no gluons, no quantum gravity, no super symmetry, no superstring, no gravitational waves, no black holes, no big bang and inflation. These conjectures do not exist. Newtonian gravity formula is based on empirical observation by what Newton called induction. Newtonian did not explain what is gravity? how it works? Hence his theory of gravity is only a conjecture. In general theory of relativity there is no gravity formula. Einstein theory of gravitation is based on the principle of equivalence (the happiest thought of my life) and mathematical aids to the formulation of generally covariant equations which are wrong, to see the new gravitational formula (7). Hence Albert Einstein general theory of relativity is a 100%wrong. The BIG Bang and inflation are 100% wrong. We prove that gravitons are unobservable tachyons. But mainstream scientific community do not accept the tachyonic theory. Hence many theories are wrong. Break the symmetry, Nambu reasoned, and you get particles with mass, 2008Nobel physics prize, it is symmetry breaking in superconductivity, it is wrong theory. Break the symmetry, Englert and Higgs reasoned, the Higgs mechanism that endows fundamental particles with mass,2013Nobel physics prize, the Higgs field can not explain the origin of its own mass, Higgs model is not answer to the origin of mass. it is the wrong theory. All spontaneous symmetry-breaking is wrong. The origin of mass is one of the central unresolved questions in modern physics . In 1976 we suggest the theory of the origin of mass. We prove that the origin of mass is the tachyonic and gravitational field , which endows the observable particles with mass to see the new gravitational4formula(7). For example The solar system is the origin of the earth mass, the earth acquires mass from it. In 2012 in CERN the proton-proton collisions produce only the electrons and positrons, not decay to electrons and positrons, not Higgs particles. Therefore2013Nobel prize in physics is wrong. The standard model describes the elementary particles which is wrong. The electron-positron collisions produce unstable particles and unobservable particles, not quarks. The proton-antiproton collisions produce the electrons, positrons and unstable particles, unobservable particles, not quarks. CONJECTURE: In CERN at 14-100 Te Vproton-antiproton collisions produce only electrons and positrons not Higgs particles and other particles. One do not get new results from CERN experiments . It shows that the proton is composed of two electrons and three positrons . It shows that all particles are composed of the electrons and positrons(Chun-Xuan Jiang, A simple approach to the computation of the total number of hadronic constituents in Santilli model, hadronic journal 3,256-292(1979))(Chun-Xuan Jiang, A5mathematical model for particle classification, Acta Mathematica Scientia,8,133-144(1988))(Chun-Xuan Jiang, The Jiang periodic table of the elements, <http://www.vixra.org/pdf/1302.0157v1.pdf>). We prove that the proton is most stable. The gluons do not exist. The strong interaction is the gravity interaction(Jiang Chun-Xuan, Determination of proton and neutronradii, APEIRON, vol.3, Nr.3-4July-Oct,125-126(1996))(http://www.vixra.org/pdf/1007.0058v1.pdf). the particle and element classifications have the same mathematical model. The quarks and asymptotic freedom do not exist. The gravitons can be converted into the electrons and positrons which are the basic building blocks of the elementary particles. The gravitational waves do not exist and unobservable. In the universe there are no dark matter and dark energy. Yet no-one has ever seen an isolated quark, because quark does not exist. Einstein believes the tachyon does not exist, which is wrong. Physical Review Letters and Phys. Republished many mistakes articles, some even won the 6Nobel prize. But they are not published the tachyonicpapers.21st century physics is the tachyonic era.1995-2014 Awards for Essays on Gravitation were100% wrong. Jiang prove that the gravitational theory is tachyonic one and deduce the new gravitational formula(7) including Newtonian gravitational formula . Physicists do not understand and study tachyonic theory. Their research results are almost wrong. Quantum information, entanglements, black hole, the Big Bang, dark matter and dark energy, a theory of everything, the superstring theory, super symmetry and gravitational wave do not exist. To date

no gravitational wave detections have been made. Cosmic background radiation does not exist. The spontaneous symmetry-breaking is nonexistence. The Higgs particles can not endow all particles with mass. The quark-gluon plasmas do not exist. The particles with mass are observable. The particles without mass are unobservable. The photon is observable which has mass. The photon without mass is unobservable. For new gravitational formula(7), it is accepted as being self-evident. <http://vixra.org/pdf/1310.0060v1.pdf>.

Deduction of New Gravitational Formula: $\bar{F} = -\frac{mc^2}{R}$

(theory of the origin of mass)

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Gravity is a great mystery. No one has since given any machinery. In this paper we give a simple machinery. Gravity is the tachyon centripetal force, that is gravity, rather than the dark matter. Anybody may understand gravitation.

The gravitational waves do not exist and unobservable.

In the universe there is no dark matter.

Using the tardyon and tachyon coexistence principle [1]

$$u\bar{u} = c^2 \tag{1}$$

where c is light velocity in vacuum, $u \leq c$ tardyon velocity and $\bar{u} \geq c$ tachyon velocity.

We deduce a new gravitation formula: $\bar{F} = -\frac{mc^2}{R}$.

Figure 1 shows that the rotation ω of body A emits tachyon mass \bar{m} , which forms the tachyonic and gravitational field and gives the body B revolutions u and \bar{u} .

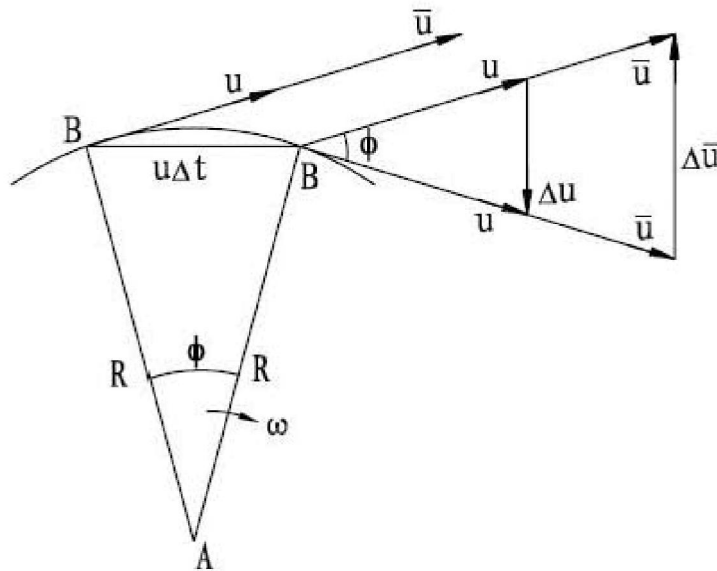


Fig. 1. On body B $\frac{du}{dt}$ and $\frac{d\bar{u}}{dt}$ coexistence [2]

<http://www.vixra.org/pdf/1205.0094v2.pdf>

From Fig. 1 it follows

$$\frac{u\Delta t}{R} = \frac{\Delta u}{u} \tag{2}$$

From (2) it follows the tardyon centripetal acceleration on the body B [2-6],

$$\frac{du}{dt} = \lim_{\substack{\Delta u \rightarrow 0 \\ \Delta t \rightarrow 0}} \frac{\Delta u}{\Delta t} = \frac{u^2}{R} \tag{3}$$

From Fig. 1 it follows

$$\frac{u\Delta t}{R} = -\frac{\Delta\bar{u}}{\bar{u}}. \quad (4)$$

From (4) and (1) it follows the tachyon centrifugal acceleration on the body B [2-6],

$$\frac{d\bar{u}}{dt} = \lim_{\substack{\Delta\bar{u} \rightarrow 0 \\ \Delta t \rightarrow 0}} \frac{\Delta\bar{u}}{\Delta t} = -\frac{u\bar{u}}{R} = -\frac{c^2}{R}. \quad (5)$$

On body B $\frac{du}{dt}$ and $\frac{d\bar{u}}{dt}$ coexistence.

From (3) it follows the tardyon centrifugal force on body B [2-6],

$$F = \frac{M_B u^2}{R}, \quad (6)$$

where M_B is body B inertial mass.

From (5) it follows the tachyon centripetal force on body B , that is gravity [2-6],

$$\bar{F} = -\frac{mc^2}{R}, \quad (7)$$

where m is the gravitation mass converted into by tachyon mass \bar{m} , which is unobservable, but m is observable, The equivalence principle does not exist, The Aberlt Einstein gravitational theory is a 100% wrong, \bar{m} is the tachyonic and gravitational field ,which is the origin of mass, which endows all particles with mass, for example the sun is origin of the earth mass. The earth acquire mass from sun. All spontaneous symmetry-breaking is wrong. Higgs particles do not exist, 2013 Nobel physics prize is wrong.

On body B F and \bar{F} coexistence.

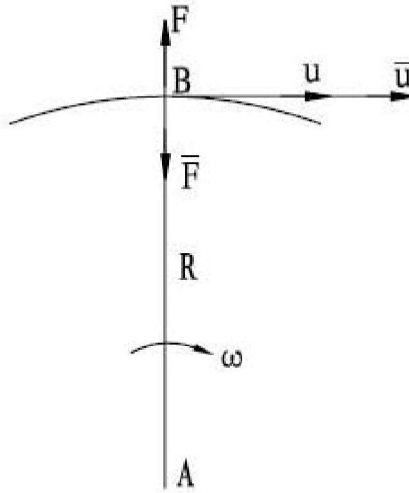


Fig.2. On body B F and \bar{F} coexistence[2].

From Fig. 2, it follows

$$F + \bar{F} = 0. \quad (8)$$

From (6), (7) and (8) it follows

$$\frac{m}{M_B} = \frac{u^2}{c^2}. \quad (9)$$

Body B increases mass m and centrifugal force is greater than gravitation force, then body B expands outward. [5,6]

From (7) it follows Newtonian gravitation formula. The m is proportional to body A mass M_A , in (9) m is proportional to M_B , is inversely proportional to the distance R between body A and body B . It follows

$$m = k \frac{M_A M_B}{R}, \quad (10)$$

where k is constant.

Substituting (10) into (7) it follows the Newtonian gravitation formula [2-6]

$$\bar{F} = -G \frac{M_A M_B}{R^2}, \quad (11)$$

where $G = kc^2 = 6.673 \times 10^{-8} \text{ cm}^3 / \text{g} \cdot \text{sec}^2$ is gravitation constant.

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We prove that gravity is non-local and tachyon gravitational velocity is tachyon.This paper is the first human to a true description of gravitation.We open the mystery of gravity.In China this article named pseudo science.
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- [4] Chun-Xuan Jiang, A unified theory of the gravitational and strong interactions, Hadronic J., 24(2001)629-638.gravity and strong force are tachyonic one.
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Conclusion:superstring theory,the theory of everything, the Big Bang,quarks,black holes,gravitational waves,dark matter,dark energy, quantum information,quantum entanglement are guess,unmeasurable and do not exist.They do not study the tachyonic theory,so these results are wrong.Now all physics has to be rewritten, and almost all work done on relativity has to be discarded. If you want to become the twenty-first century great physicist, then you should learn and study the tachyonic theory and its application. 中国到 2014-01-30 仍不承认蒋春暄工作。只能向国外宣传,因中国不需要蒋春暄工作.但 google 网全面介绍蒋春暄工作,
<http://www.vixra.org/pdf/1310.0060v1.pdf> 中国删除部分内容,更无人关心这件事.

A New Universe Model

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We suggest a new universe model [1-4].The universe has no beginning and no end. The universe is infinite, but it has a center consisting of the tachyonic matter, which is strong gravitational field(SGF), which governs motion of the whole universe. Therefore the universe is stable and

harmonious..... In the sun there is a center consisting of the tachyonic matter with SGF, which governs the motion of the solar system. therefore the solar system is stable and harmonious. In the earth there is a center consisting of the tachyonic matter with SGF, which governs the motion of the earth and the moon. Therefore earth is stable and harmonious. In the moon there is a center consisting of the tachyonic matter with SGF, which governs the motion of the moon. Therefore moon is stable and harmonious. In atom there is a center consisting of the tachyonic matter with SGF, which governs the motion of the atom. Therefore atom is stable and harmonious. The tachyonic theory governs the amazing harmony of the whole universe from the smallest to largest scales. In the universe there are no dark matter, no dark energy, no gravitational waves and quantum gravity. The big bang is the conjecture which does not exist.

In the Universe there are two matters[1-4]: (1) observable subluminal matter called tardyons(locality) and (2) unobservable superluminal matter called tachyons(non-locality). They coexist in motion. In the universe there are no dark matter and dark energy.

What are tachyons? Historically tachyons are described as particles which travel faster than light. Tachyon as particle with imaginary mass which is wrong. In our theory tachyon has no rest time and no rest mass[1]. It is unobservable. Tachyons can be converted into tardyons and vice versa. Tardyonic rotating motion produces the centrifugal force but tachyonic rotating motion produces the centripetal force that is gravity. Using the coexistence principle of tardyons and tachyons we deduce the new gravitational formula: $\vec{F} = -mc^2 / R$. We establish the expansion theory of universe without dark matter and dark energy. We unify the gravitational interaction and the strong interaction. We explain the behavior of the entire universe from the smallest to the largest scales. In the universe there are no quarks and no Higgs particles. We prove the Einstein's principles of equivalence is nonexistent. Therefore the general theory of relativity is wrong. In the universe there are no black holes. The geometrization of all physical fields is mathematical guesses which has no physical reality, because they do not consider and understand the tachyonic theory. If quantum teleportation, quantum computation and quantum information are action-at-a-distance then they are unobservable.

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Determination of Proton and Neutron Radii

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In note we calculate Proton and Neutron radii[1,2]

The Newtonian gravitation formula has the following form .

$$F = -G \frac{M_1 M_2}{R^2} \quad (1)$$

We assume

$$G = K_0 \rho_1 \rho_2 \quad (2)$$

Where ρ_1 and ρ_2 denote the densities of both M_1 and M_2 separately. Using the

Cavendish experiment we determine K_0 . In (2) $G = 6.7 \times 10^{-8} \text{ cm}^3/\text{g sec}^2$ and the density of

lead $\rho_1 = \rho_2 = 11.37 \text{ g/cm}^3$. From (2) we have

$$K_0 = 5.2 \times 10^{-10} \text{ cm}^9/\text{g}^3 \text{ sec}^2 \quad (3)$$

Thus, K_0 is new gravitational constant.

By using (2) we determine the proton radius γ_p . From (2) we have

$$\gamma_p = \left(\frac{9K_0 m_p^2}{16\pi^2 G_s} \right)^{1/6} \quad (4)$$

In the nucleus the strong interaction prevails. We have [3].

$$\frac{\text{strong interaction}}{\text{gravitational interaction}} = \frac{G_s}{G} = 10^{38} \quad (5)$$

where $G_s = 6.7 \times 10^{30} \text{ cm}^3/\text{g sec}^2$. We know the proton mass $m_p = 1.67 \times 10^{-24} \text{ g}$. From (4) we

obtain the proton radius

$$\gamma_p = 1.5 \times 10^{-15} \text{ cm} = 0.015 \text{ fm} \quad (6)$$

In the same way we have the neutron radius

$$\gamma_n = 1.5 \times 10^{-15} \text{ cm} = 0.015 \text{ fm} \quad (7)$$

**Pohl, et al measure the proton size 0.03 fm[4].
 Inside atom there are no gluons and quarks, we prove
 that the strong interaction is the gravitational
 interaction. All spontaneous symmetry-breaking is
 wrong.**

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The Jiang Periodic Table Of The Elements

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Abstract

Using the stable number theory we calculate the best electron configurations of the elements and not from experimental data[6-8,10].We make the Jiang periodic table of the elements[1-10].

In studying the stability of the many-body problem we suggest two principles [1-10].

(1) The prime number principle. A prime number is irreducible in the integers, it seems therefore natural to associate it with the most stable subsystem. We prove that 1, 3, 5, 7, 11, 23, 47 are the most stable primes.

(2) The symmetric principle. The most stable configuration of two prime numbers is then stable symmetric system in nature. We prove that 2, 4, 6, 10, 14, 22, 46, 94 are the most stable even numbers.

By using the prime number principle and the symmetric principle we calculate the best electron configurations of the elements. Total quantum number n and orbital quantum number

l determine the best electron configurations of the elements

Electron shells: $n=1 \ 2 \ 3 \ 4 \ 5 \ 6\dots$
 $K \ L \ M \ N \ O \ P\dots$

Electron subshells: $2(2l+1) = 2 \ 6 \ 10 \ 14 \ 18 \ 22\dots$
 $s \ p \ d \ f \ g \ h\dots$

An atomic subshell that contains its full quota of electrons is said to be closed. A closed s subshell ($l=0$) holds two electrons, a closed p subshell ($l=1$) six electrons, a closed d subshell ($l=2$) ten electrons, a closed f subshell ($l=3$) fourteen electrons, these subshells are the most stable, a closed g subshell ($l=4$) eighteen electrons is the most unstable. Using the symmetric principle it has been proved the $2(2l+1) = 2, 6, 10$ and 14 are stable and $2(2l+1) = 18$ is unstable[1-10]. The s, p, d , and f subshells are stable and the g subshell is unstable.

From 1 to 92 of the atomic numbers every subshell is stable. It has been proved that the last stable element that occurs naturally is uranium with an atomic number of 92 and there are only 92 stable elements in nature.

Since $5g$ subshell is unstable, the elements 93-110 are unstable. Since $5g$ is unstable, $6s, 6p, 6d, 6f, 6g$ and $6h$ subshells are unstable. Therefore the elements 111-182 are unstable..

Using the $1s, 2s, 3s, 4s,$ and $5s$ of electron configurations[6-8,10] we make the Jiang periodic table of elements with five periods. The sequence of period lengths is 2,8,18,32,50. Table 1 shows the relationship between the outermost subshell electron configurations and the Jiang periodic table. The Jiang periodic table reflects the order in which atomic orbitals are filled. The s orbitals are filled in the two rows. The p orbitals are filled in the six rows. The d orbitals are filled in the ten rows. The f orbitals are filled in the fourteen rows. The g orbitals are filled in the eighteen rows.

Using this method[1-10] we can study the particle classification[11,12].It is the best theory of elementary particles. In CERN at 14-20 Tev proton-antiproton collision produce only electrons and positrons.

Table 1. The Jiang periodic table of elements.

Atomic Orbitals	Outermost Subshell electrons	1. Period	2. Period	3. Period	4. Period	5. Period
s	1 2	1 H 2 He	3 Li 4 Be	11 Na 12 Mg	29 Cu 30 Zn	61 Pm 62 Sm
p	1 2 3 4 5 6		5 B 6 C 7 N 8 O 9 F 10 Ne	13 Al 14 Si 15 P 16 S 17 Cl 18 Ar	31 Ga 32 Ge 33 As 34 Se 35 Br 36 Kr	63 Eu 64 Gd 65 Tb 66 Dy 67 Ho 68 Er
d	1 2 3 4 5 6 7 8 9 10			19 K 20 Ca 21 Sc 22 Ti 23 V 24 Cr 25 Mn 26 Fe 27 Co 28 Ni	37 Rb 38 Sr 39 Y 40 Zr 41 Nb 42 Mo 43 Tc 44 Ru 45 Rh 46 Pd	69 Tm 70 Yb 71 Lu 72 Hf 73 Ta 74 W 75 Re 76 Os 77 Ir 78 Pt
f	1 2 3 4 5 6 7 8 9 10 11 12 13 14				47 Ag 48 Cd 49 In 50 Sn 51 Sb 52 Te 53 I 54 Xe 55 Cs 56 Ba 57 La 58 Ce 59 Pr 60 Nd	79 Au 80 Hg 81 Tl 82 Pb 83 Bi 84 Po 85 At 86 Rn 87 Fr 88 Ra 89 Ac 90 Th 91 Pa 92 U

g	1		93 Np
	2		94 Pu
	3		95 Am
	4		96 Cm
	5		97 Bk
	6		98 Cf
	7		99 Es
	8		100 Fm
	9		101 Md
	10		102 No
	11		103 Lr
	12		104 Rf
	13		105 Db
	14		106 Sg
	15		107 Bh
	16		108 Hs
	17		109 Mt
	18		110 Ds

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An equation that changed the universe: $\bar{F} = -mc^2/R$

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Abstract

This paper explains the behavior of the entire universe from the smallest to the largest scales, found an equation that changed the universe: $\bar{F} = -mc^2/R$, established the expansion theory of the universe without dark matter and dark energy, and obtained the expansion acceleration: $g_e = u^4/C^2R$. It shows that gravity is action-at-a-distance and that a gravitational wave is unobservable. Thus, a new universe model is suggested that the universe has a center consisting of the tachyonic matter.

Conjecture:in CERN at 14-20 Tev proton-antiproton collisions produce only electrons and positrons. It shows that the proton is composed of electrons and positrons and all particles are composed of the electrons and positrons[8,9].Inside atom there are no quarks. We prove that the origin of mass is the tachyonic and gravitational field to see Fig.2. The sun is the origin of the planet mass, the planet acquire

mass from the sun to see table 1.All spontaneous symmetry-breaking is wrong.We prove that in the universe there are no dark matter and dark energy.

Introduction

According to Jiang idea[1],in the Universe there are two kinds of matter: (1) observable subluminal matter called tardyons(locality) and (2) unobservable superluminal matter called tachyons(nonlocality). They coexist in motion. What are tachyons? Historically tachyons are described as particles which travel faster than light. Describing tachyon as a particle with an imaginary mass is wrong[2]. In our theory[1] tachyon has no rest time and no rest mass. It is unobservable. Tachyons can be converted into tardyons and vice versa. Tardyonic rotating motion produces the centrifugal force but tachyonic rotating motion produces the centripetal force which is force of gravity. Using the coexistence principle of tardyons and tachyons it follows that

an equation that changed the universe: $\bar{F} = -mc^2/R$. We establish the expansion theory of a universe without dark matter and dark energy. We obtain the expansion acceleration:

$$g_e = u^4/C^2R.$$

We unify the gravitational theory and particle theory and explain the behavior of the entire universe from the smallest to the largest scales.

The geometrization of all physical fields is a mathematical guess which has no basis in physical reality, because it does not consider and understand the tachyonic theory. It shows that gravity is action-at-a-distance and that a gravitational wave is unobservable.We suggest a new universe model that the universe has a centre consisting of the tachyonic matter.

An equation that Changed the Universe: $\bar{F} = -mc^2/R$

We first define two-dimensional space and time ring[1]

$$z = \begin{pmatrix} ct & x \\ x & ct \end{pmatrix} = ct + jx, \quad (1)$$

where x and t are the tardyonic space and time coordinates, c is light velocity in vacuum,

$$j = \begin{pmatrix} 0 & 1 \\ 1 & 0 \end{pmatrix}.$$

(1) can be written in Euler form

$$z = ct_0 e^{j\theta} = ct_0 (\text{ch } \theta + j \text{sh } \theta), \quad (2)$$

where ct_0 is the tardyonic invariance, and θ is the tardyonic hyperbolic angle.

From (1) and (2) it follows

$$ct = ct_0 \text{ch } \theta, \quad x = ct_0 \text{sh } \theta \quad (3)$$

$$ct_0 = \sqrt{(ct)^2 - x^2}. \quad (4)$$

From (3) it follows

$$\theta = \text{th}^{-1} \frac{x}{ct} = \text{th}^{-1} \frac{u}{c}. \quad (5)$$

where $c \geq u$ is the tardyonic velocity, $\text{ch } \theta = \frac{1}{\sqrt{1-(u/c)^2}}$ and $\text{sh } \theta = \frac{u/c}{\sqrt{1-(u/c)^2}}$.

The z denotes space-time of the tardyonic theory.

Using the morphism $j : z \rightarrow jz$, it follows

$$jz = \bar{x} + jc\bar{t} = \bar{x}_0 e^{j\bar{\theta}} = \bar{x}_0 (\text{ch } \bar{\theta} + j \text{sh } \bar{\theta}), \quad (6)$$

where \bar{x} and \bar{t} are the tachyonic space and time coordinates, \bar{x}_0 is tachyonic invariance, $\bar{\theta}$ tachyonic hyperbolic angle.

From (6) it follows

$$\bar{x} = \bar{x}_0 \text{ch } \bar{\theta}, \quad c\bar{t} = \bar{x}_0 \text{sh } \bar{\theta}. \quad (7)$$

$$\bar{x}_0 = \sqrt{(\bar{x})^2 - (c\bar{t})^2}. \quad (8)$$

From (7) it follows

$$\bar{\theta} = \text{th}^{-1} \frac{c\bar{t}}{\bar{x}} = \text{th}^{-1} \frac{c}{\bar{u}}. \quad (9)$$

where $\bar{u} \geq c$ is the tachyonic velocity, $\text{ch } \bar{\theta} = \frac{1}{\sqrt{1-(c/\bar{u})^2}}$ and

$$\text{sh } \bar{\theta} = \frac{c/\bar{u}}{\sqrt{1-(c/\bar{u})^2}}.$$

The jz denotes space-time of the tachyonic theory. Both the z and the jz form the entire world but the jz world is unexploited and unstudied.

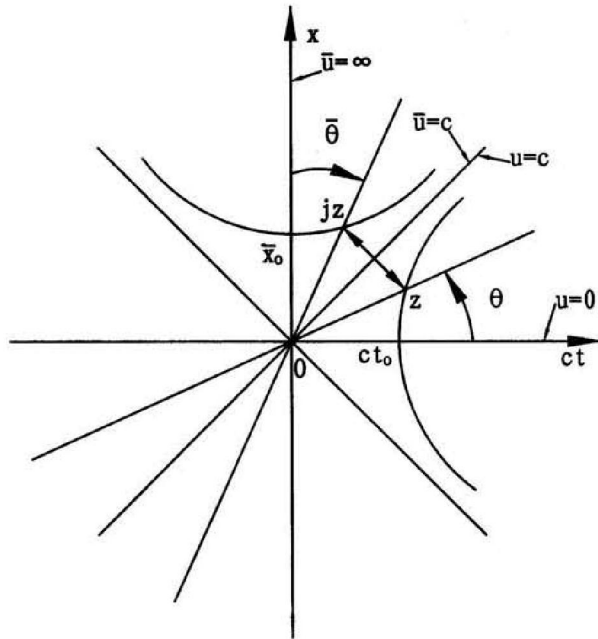


Fig. 1. Minkowskian spacetime diagram

Figure 1 shows the formulas (1)-(9). $j : z \rightarrow jz$ shows that a tardyon can be converted into a tachyon, but $j : jz \rightarrow z$ shows that a tachyon can be converted into a tardyon. $u = 0 \rightarrow u = c$ is a tardyonic velocity, but $\bar{u} = \infty \rightarrow \bar{u} = c$ is a tachyonic velocity, which coexist. At the $x -$ axis we define the tachyonic length

$$\bar{x}_0 = \lim_{\substack{\bar{u} \rightarrow \infty \\ t \rightarrow 0}} \bar{u}t = \text{constant} . \tag{10}$$

where t is the rest time.

Since at rest the tachyonic time $t = 0$ and $\bar{u} = \infty$, it shows that the tachyon is unobservable. In the rest system the tachyonic motion is an action-at-a distance motion. This simple thought made a deep impression on me. It impelled me toward the tachyonic theory[1].

Assume $\theta = \bar{\theta}$, from (5) and (9) it follows that the tardyonic and tachyonic coexistence principle[1,3,4]

$$u\bar{u} = c^2 . \tag{11}$$

Differentiating (11) by the time, it follows

$$\frac{d\bar{u}}{dt} = -\left(\frac{c}{u}\right)^2 \frac{du}{dt} . \tag{12}$$

$\frac{du}{dt}$ and $\frac{d\bar{u}}{dt}$ can coexist in motion, but their directions are opposite.

We study the tardyonic and tachyonic rotating motions. The tardyonic rotation produces centripetal acceleration

$$\frac{du}{dt} = \frac{u^2}{R}, \quad (13)$$

where R is rotating radius.

Substituting (13) into (12) it follows that the tachyonic rotating produces centrifugal acceleration

$$\frac{d\bar{u}}{dt} = -\frac{c^2}{R}. \quad (14)$$

It is independent of tachyonic velocity \bar{u} , only inversely proportional to radius R .

(13) and (14) are dual formulas, which have the same form. It is unique and perfect. From (13) it follows the tardyonic centrifugal force

$$F = \frac{Mu^2}{R}, \quad (15)$$

where M is the inertial mass.

From (14) it follows the tachyonic centripetal force, that is gravity

$$\bar{F} = -\frac{mc^2}{R}, \quad (16)$$

where m is the gravitational mass converted into by tachyonic mass \bar{m} which is unobservable and the origin of particles mass. It endows the particles with mass, but m is observable.

Whether $u = 0$ or $u \neq 0$, all matter produces gravity. (15) and (16) are dual formulas, which have the same form. (16) is a new gravitational formula called an equation that changed the universe. This simple thought made a deep impression on me. It impelled me toward a theory of gravitation. It has simplicity, elegance and mathematical beauty. It is the foundations of gravitational theory and cosmology. In the universe there are two main forces: the tardyonic centrifugal force (15) and tachyonic centripetal force (16) which make structure formation of the universe.

Now we study the freely falling body. Tachyonic mass \bar{m} can be converted into tardyonic mass m , which acts on the freely falling body and produces the gravitational force

$$\bar{F} = -\frac{mc^2}{R}, \quad (17)$$

where R is the Earth radius.

We have the equation of motion

$$\frac{mc^2}{R} = Mg, \quad (18)$$

where g is gravitational acceleration, M is mass of freely falling body.

From (18) it follows the gravitational coefficient

$$\eta = \frac{m}{M} = \frac{Rg}{c^2} = 6.9 \times 10^{-10}. \quad (19)$$

Eötvös(1922) experiment $\eta \sim 5 \cdot 10^{-9}$ and Dicke experiment $\eta \sim 10^{-11}$ [5]. Since the gravitational mass m can be transformed into the rest mass in freely falling body, we prove that

the freely falling bodies fall with the same acceleration. We define Einstein's gravitational mass $M_g = M_i + m$ and inertial mass $M_i = M$ [6]. It follows

$$M_g > M_i. \quad (20)$$

Therefore it shows that the principle of equivalence is nonexistent.

The expansion theory of the universe without dark energy

The Big Bang threw all the matter in the universe outwards. Both Newton's and Einstein's theories of gravity predict that the expansion must be slowing down to some degree: the mutual gravitational attraction of all the matter in all the galaxies should be pulling them inwards. But measurements of distant supernovae show just the opposite[7]. All the matter in the universe appears to be accelerating outwards. Its speed is picking up. There is no agreement yet about how to explain these mysterious observations. Now we explain our accelerating universe.

Using (16) we study the expansion theory of the Universe. Figure 2 shows a expansion model of the Universe. The rotation ω_1 of body A emits tachyonic flow, which forms the tachyonic field. Tachyonic mass \bar{m} acts on body B , which produces its rotation ω_2 , revolution u and gravitational force

$$\bar{F}_1 = -\frac{mc^2}{R}, \quad (21)$$

where R denotes the distance between body A and body B , m is gravitational mass converted into by tachyonic mass \bar{m} which is unobservable but m is observable. The revolution of the body B around body A produces the centrifugal force

$$F_1 = \frac{M_B u^2}{R}, \quad (22)$$

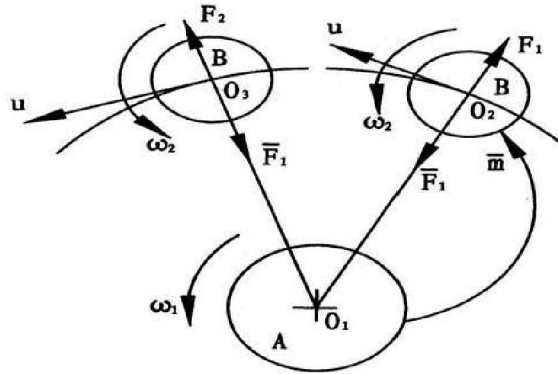


Fig. 2. A expansion model of the Universe

where M_B is the inertial mass of body B , u is the orbital velocity of body B .

At the O_2 point we assume

$$F_1 + \bar{F}_1 = 0. \tag{23}$$

From (23) it follows that the coexistence of the gravitational force and centrifugal force.

From (21)-(23) it follows the gravitational coefficient

$$\eta = \frac{m}{M_B} = \left(\frac{u}{c}\right)^2. \tag{24}$$

At the O_3 point the tachyonic mass \bar{m} can be converted into the rest mass m in body B , it follows

$$F_2 = \frac{M_B u^2}{R} + \frac{m u^2}{R}. \tag{25}$$

Since $F_2 + \bar{F}_1 > 0$, centrifugal force F_2 is greater than gravitational force \bar{F}_1 , then the body B expands outwards and its mass increases. This is a expansion mechanism of the Universe.

From (21)-(23) we have

$$F_2 + \bar{F}_1 = \frac{m u^2}{R} = M_B g_e. \tag{26}$$

From (26) we obtain the expansion acceleration

$$g_e = \frac{m u^2}{M_B R}. \tag{27}$$

Substituting The sun (24) in (27) we obtain

$$g_e = \frac{u^4}{C^2 R}. \tag{28}$$

If body A is the Earth, then body B is the Moon; if body A is the Sun, then body B is the Earth; ... It can explain our accelerating universe. In this model universe there are no dark matter

and no dark energy. This simple thought made a deep impression on me. It impelled me toward a expansion theory of the universe without dark matter and dark energy.

If the body A is the Sun and body B is the planet. We calculate the gravitational coefficients η as shown in table 1.

Table 1: Values of the gravitational coefficients η

Planet	u (km/sec)	$\eta(10^{-10})$
Mercury	47.89	255.2
Venus	35.03	136.5
Earth	29.79	98.7
Mars	24.13	64.8
Jupiter	13.06	19.0
Saturn	9.64	10.3
Uranus	6.81	5.2
Neptune	5.43	3.3
Pluto	4.74	2.5

Since gravitational mass m can be transformed into the rest mass in body B , we define

Einstein's gravitational mass $M_g = M_i + m$ and inertial mass $M_i = M_B$ [6].

It follows

$$M_g > M_i. \quad (29)$$

Therefore it shows that the principle of equivalence in the Solar system is nonexistent. Of all the principles at work in gravitation, none is more central than the principles of equivalence[5], which could be wrong.

The tachyonic mass \bar{m} can be converted into electrons and positrons which are the basic building-blocks of elementary particles [8,9]. From (21) it follows Newtonian gravitational formula. The m is proportional to M_A , which denotes inertial mass of body A , in (24) m is proportional to M_B , is inversely proportional to the distance R between body A and body B . It follows

$$m = k \frac{M_A M_B}{R}, \quad (30)$$

where k is a constant.

Substituting (30) into (21) it follows Newtonian gravitational formula[3,4]

$$\bar{F}_1 = -G \frac{M_A M_B}{R^2}, \quad (31)$$

where $G = kc^2$ is a gravitational constant.

We have Einstein's gravitational mass

$$M_g = M_i + m = M_i(1 + \eta). \quad (32)$$

Substituting (32) into (31) it follows Newtonian generalized gravitational formula

$$\bar{F}_1 = -G \frac{M_A(1 + \eta_A)M_B(1 + \eta_B)}{R^2}, \quad (33)$$

where η_A and η_B denote gravitational coefficients of body A and body B separately.

Assume ρ_A and ρ_B denote the densities of body A and body B separately. In the same way from (33) it follows unified formula of the gravitational and strong forces [4]

$$\bar{F}_1 = -G_0 \frac{\rho_A M_A(1 + \eta_A)\rho_B M_B(1 + \eta_B)}{R^2} \quad (34)$$

where $G_0 = 5.2 \times 10^{-10} \text{ cm}^9/\text{g}^3 \cdot \text{sec}^2$ is a new gravitational constant.

In the nucleus exists the strong interactions. It follows[4]

$$\frac{\text{Strong interaction}}{\text{Gravitational interaction}} = \frac{G_s}{G_g} = 10^{38} \quad (35)$$

where $G_g = 6.7 \times 10^{-8} \text{ cm}^3/\text{g} \cdot \text{sec}^2$ and $G_s = 6.7 \times 10^{30} \text{ cm}^3/\text{g} \cdot \text{sec}^2$

In the nucleus we assume $\rho_A = \rho_B = \rho$. From (34) it follows

$$G_s = G_0 \rho^2 \quad (36)$$

From (36) it follows the formula of the particle radii

$$r = 1.55[m(\text{Gev})]^{1/3} \text{ jn}, \quad (37)$$

where $1 \text{ jn} = 10^{-15} \text{ cm}$ and $m(\text{Gev})$ is the mass of the particles.

From (37) it follows that the proton and neutron radii are 1.5 jn [4,10]. Pohl et al measure the proton diameter 3 jn [11].

We have the formula of the nuclear radii[12]

$$r = 1.2(A)^{1/3} \text{ fm}, \quad (38)$$

where $1 \text{ fm} = 10^{-13} \text{ cm}$ and A is its mass number.

It shows that (37) and (38) have the same form. The particle radii $r < 5 \text{ jn}$ and the nuclear radii $r < 7 \text{ fm}$.

Similar to equation (10) we define the tachyonic momentum of a string length \bar{x}_0 [1,4].

$$\bar{P}_0 = \lim_{\substack{m_0 \rightarrow 0 \\ \bar{u} \rightarrow \infty}} m_0 \bar{u} = \text{const}, \quad (39)$$

where m_0 is tachyonic rest mass.

Since $\bar{u} \rightarrow \infty$ and $t = 0$, tachyon has no rest mass and no rest time, it shows that tachyon is unobservable, that gravity is action-at-a-distance and gravitational wave is unobservable. If quantum teleportation, quantum computation and quantum information are the tachyonic motion[13], then they are unobservable. Therefore the entanglements do not exist.

A new universe model

From above we suggest a new universe model. The universe has no beginning and no end. The universe is infinite, but it has a centre consisting of the tachyonic matter, which dominates motion of the entire universe. Therefore the universe is stable.....In the sun there is a centre consisting of the tachyonic matter, which dominates motion of the sun system. In the earth there is a centre consisting of the tachyonic matter, which dominates motion of the earth and the moon. In the moon there is a centre consisting of the tachyonic matter, which dominates motion of the moon. In atomic nucleus there is a centre consisting of the tachyonic matter, which dominates motion of the nucleus. Therefore atomic nuclei are stable.

Conclusion

Special relativity is the tardyonic theory. Einstein pointed out that velocities greater than that of light have –as in our previous results–no possibility of existence [14], which could be wrong. But gravitation is the tachyonic theory and an action-at-a-distance.

What is gravity? Newton wrote, “I have not been able to discover the cause of those properties of gravity from phenomena, and I frame no hypotheses ...”. Einstein’s theory of general relativity answered Newton’s question: mass causes space-time curvature which is wrong. Gravity is the tachyonic centripetal force.

Where did we come from? Where are we going ? What makes up the universe? These questions have occupied mankind for thousands of years. Over the course of history, our view of the world has changed. Theologians and philosophers, physicists and astronomers have given us very different answers. Where did we come from ? We answer this questions this way $\bar{m} \rightarrow m$, tachyons \rightarrow tardyons, that is gravitons can be converted into the electrons and positrons which are the basic building-blocks of particles. Where are we going? We answer this question this way $m \rightarrow \bar{m}$, that is the tardyons produce tachyons. The tardyons and tachyons make up the Universe.

Jiang found a gravitational formula[3] : $\bar{F} = -\bar{m}c^2/R$, where \bar{m} is the tachyonic mass. In 2004 Jiang studied the Universe expansion and found $\bar{F} = -mc^2/R$, where m is gravitational mass converted into by tachyonic mass \bar{m} .

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Deduction of New Gravitational

$$\text{Formula: } \bar{F} = -\frac{mc^2}{R}$$

(theory of the origin of mass)

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Abstract. The origin of mass is one of the central unresolved questions in modern physics. We suggest the theory of the origin of mass. we prove that the origin of mass is the tachyonic and gravitational field, the particles obtain mass from it, Higgs particles do not exist, we deduce the new gravitational formula. Gravity is the tachyon centripetal force rather than the dark matter .Anybody may understand it.All spontaneous symmetry-breaking is wrong. 2013Nobel physics prize is wrong.

Using the tardyon and tachyon coexistence principle [1-5]

$$u\bar{u} = c^2 \tag{1}$$

where c is light velocity in vacuum, $u \leq c$ tardyon velocity and $\bar{u} \geq c$ tachyon velocity.

We deduce a new gravitation formula: $\bar{F} = -\frac{mc^2}{R}$.

Figure 1 shows that the rotation ω of body A emits tachyon mass \bar{m} , which forms the tachyon and gravitation field and gives the body B revolutions u and \bar{u} .

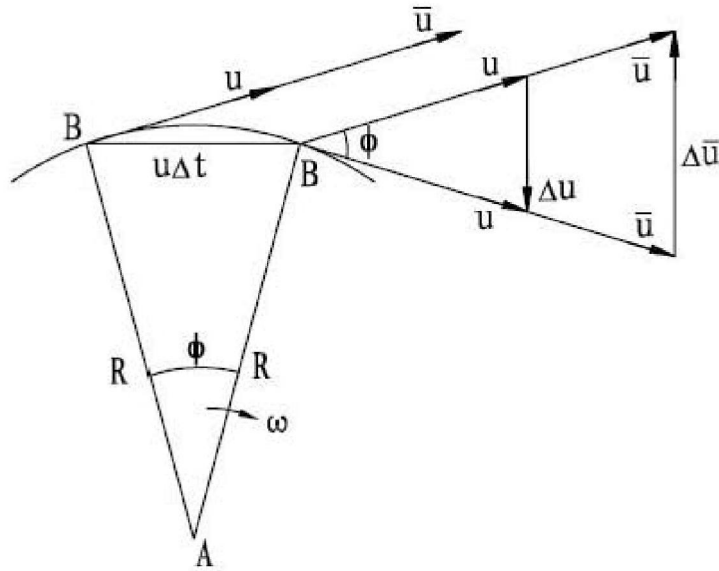


Fig.1. On body B $\frac{du}{dt}$ and $\frac{d\bar{u}}{dt}$ coexistence [2].

From Fig. 1 it follows

$$\frac{u\Delta t}{R} = \frac{\Delta u}{u} \quad (2)$$

From (2) it follows the tardyon centripetal acceleration on the body B [2-4],

$$\frac{du}{dt} = \lim_{\substack{\Delta u \rightarrow 0 \\ \Delta t \rightarrow 0}} \frac{\Delta u}{\Delta t} = \frac{u^2}{R} \quad (3)$$

From Fig. 1 it follows

$$\frac{u\Delta t}{R} = -\frac{\Delta \bar{u}}{u} \quad (4)$$

From (4) and (1) it follows the tachyon centripetal acceleration on the body B [2-4],

$$\frac{d\bar{u}}{dt} = \lim_{\substack{\Delta \bar{u} \rightarrow 0 \\ \Delta t \rightarrow 0}} \frac{\Delta \bar{u}}{\Delta t} = -\frac{u\bar{u}}{R} = -\frac{c^2}{R} \quad (5)$$

On body B $\frac{du}{dt}$ and $\frac{d\bar{u}}{dt}$ coexistence.

From (3) it follows the tardyon centripetal force on body B [2-4],

$$F = \frac{M_B u^2}{R} \quad (6)$$

where M_B is body B mass.

From (5) it follows the tachyon centripetal force on body B , that is gravity [2-4],

$$\bar{F} = -\frac{mc^2}{R}, \quad (7)$$

where m is the gravitation mass converted into by tachyon mass \bar{m} which is unobservable and the origin of mass, it endows particles with mass, Higgs particles do not exist, but m is observable.

On body B F and \bar{F} coexistence.

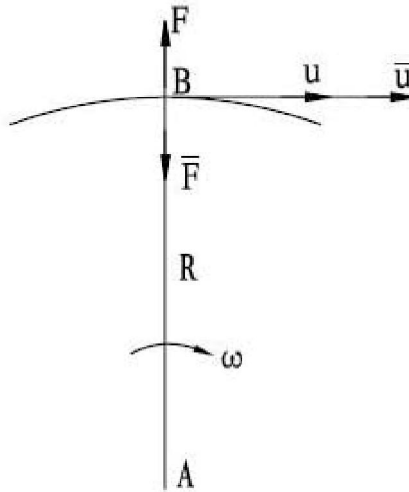


Fig.2. On body B F and \bar{F} coexistence[2].

From Fig. 2, it follows

$$F + \bar{F} = 0. \quad (8)$$

From (6), (7) and (8) it follows

$$\frac{m}{M_B} = \frac{u^2}{c^2}. \quad (9)$$

Body B increases mass m and centrifugal force is greater than gravitation force, then body B expands outward.

From (7) it follows Newtonian gravitation formula. The m is proportional to body A mass M_A , in (9) m is proportional to M_B , is inversely proportional to the distance R between body A and body B . It follows

$$m = k \frac{M_A M_B}{R}, \quad (10)$$

where k is constant

Substituting (10) into (7) it follows the Newtonian gravitation formula [2-4]

$$\bar{F} = -G \frac{M_A M_B}{R^2}, \quad (11)$$

where $G = kc^2 = 6.673 \times 10^{-8} \text{ cm}^3 / \text{g} \cdot \text{sec}^2$ is gravitation constant.

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<http://www.vixra.org/pdf/1007.0018v1.pdf>

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From:"Walter H.G.Lewin"lewin@space.mit.edu

Publish this in a refereed journal and once it is accepted buy yourself a first class ticket to Stockholm to pick up Nobel prize for physics.

From:"Walter H.G.Lewin"lewin@space.mit.edu

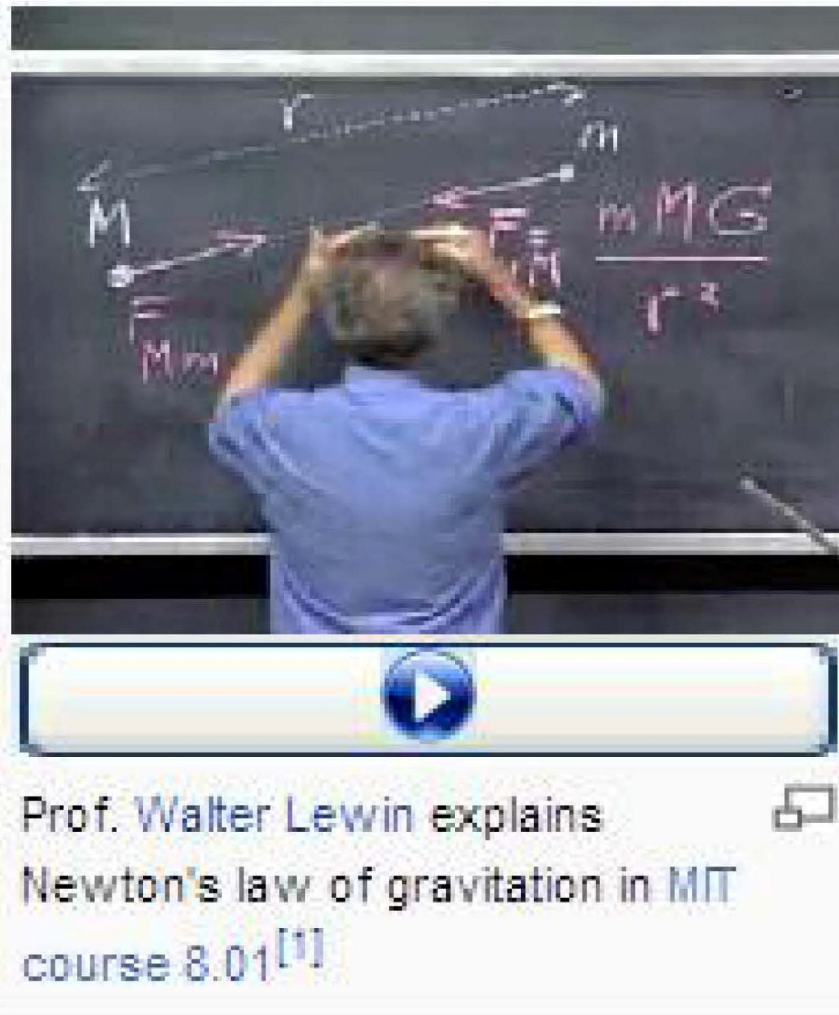
Dear Jiang

Thank for your email.

I suggest you submit your theory to a refereed journal.If it is accepted,then buy yourself a plane ticket to Stochholm to pick up a Nobel prize.

.....

Greetings.



蒋春暄研究方法:他用他的思维和方法研究自然界,至于其他人研究自然界的思维和方法他并不关心.所以在他的论文中几乎没有其他人的参考文献.

10/22/2017